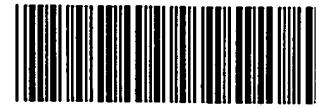


## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.**

Application Serial Number: 101617,034A  
Source: IF WO  
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II

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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/617,034A

DATE: 08/22/2005

TIME: 11:28:33

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3 <110> APPLICANT: ITOH, NOBUYA  
 4 WAKITA, RYUHEI  
 6 <120> TITLE OF INVENTION: PROCESS FOR PRODUCING 3-HYDROXYCYCLOHEXANONE  
 8 <130> FILE REFERENCE: Q76481  
 10 <140> CURRENT APPLICATION NUMBER: 10/617,034A  
 11 <141> CURRENT FILING DATE: 2003-07-11  
 13 <150> PRIOR APPLICATION NUMBER: JP 2002-205207  
 14 <151> PRIOR FILING DATE: 2002-07-15  
 16 <160> NUMBER OF SEQ ID NOS: 15  
 18 <170> SOFTWARE: PatentIn Ver. 3.2  
 20 <210> SEQ ID NO: 1  
 21 <211> LENGTH: 348  
 22 <212> TYPE: PRT  
 23 <213> ORGANISM: Corynebacterium pseudodiphtheriticum  
 25 <400> SEQUENCE: 1  
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 27 1 5 10 15  
 29 Glu Ile Pro Lys Pro Glu Pro Gly Pro Gly Glu Val Leu Leu Glu Val  
 30 20 25 30  
 32 Thr Ala Ala Gly Val Cys His Ser Asp Asp Phe Ile Met Ser Leu Pro  
 33 35 40 45  
 35 Glu Glu Gln Tyr Thr Tyr Gly Leu Pro Leu Thr Leu Gly His Glu Gly  
 36 50 55 60  
 38 Ala Gly Lys Val Ala Ala Val Gly Glu Gly Val Glu Gly Leu Asp Ile  
 39 65 70 75 80  
 41 Gly Thr Asn Val Val Val Tyr Gly Pro Trp Gly Cys Gly Asn Cys Trp  
 42 85 90 95  
 44 His Cys Ser Gln Gly Leu Glu Asn Tyr Cys Ser Arg Ala Gln Glu Leu  
 45 100 105 110  
 47 Gly Ile Asn Pro Pro Gly Leu Gly Ala Pro Gly Ala Leu Ala Glu Phe  
 48 115 120 125  
 50 Met Ile Val Asp Ser Pro Arg His Leu Val Pro Ile Gly Asp Leu Asp  
 51 130 135 140  
 53 Pro Val Lys Thr Val Pro Leu Thr Asp Ala Gly Leu Thr Pro Tyr His  
 54 145 150 155 160  
 56 Ala Ile Lys Arg Ser Leu Pro Lys Leu Arg Gly Gly Ser Tyr Ala Val  
 57 165 170 175  
 59 Val Ile Gly Thr Gly Gly Leu Gly His Val Ala Ile Gln Leu Leu Arg  
 60 180 185 190  
 62 His Leu Ser Ala Ala Thr Val Ile Ala Leu Asp Val Ser Ala Asp Lys  
 63 195 200 205  
 65 Leu Glu Leu Ala Thr Lys Val Gly Ala His Glu Val Val Leu Ser Asp  
 66 210 215 220

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PATENT APPLICATION: US/10/617,034A

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TIME: 11:28:33

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68 Lys Asp Ala Ala Glu Asn Val Arg Lys Ile Thr Gly Ser Gln Gly Ala  
69 225 230 235 240  
71 Ala Leu Val Leu Asp Phe Val Gly Tyr Gln Pro Thr Ile Asp Thr Ala  
72 245 250 255  
74 Met Ala Val Ala Gly Val Gly Ser Asp Val Thr Ile Val Gly Ile Gly  
75 260 265 270  
77 Asp Gly Gln Ala His Ala Lys Val Gly Phe Phe Gln Ser Pro Tyr Glu  
78 275 280 285  
80 Ala Ser Val Thr Val Pro Tyr Trp Gly Ala Arg Asn Glu Leu Ile Glu  
81 290 295 300  
83 Leu Ile Asp Leu Ala His Ala Gly Ile Phe Asp Ile Ser Val Glu Thr  
84 305 310 315 320  
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87 325 330 335  
89 Thr Leu Ser Gly Arg Ala Val Val Val Pro Gly Leu  
90 340 345  
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94 <211> LENGTH: 1047  
95 <212> TYPE: DNA  
96 <213> ORGANISM: Corynebacterium pseudodiphtheriticum  
98 <220> FEATURE:  
99 <221> NAME/KEY: CDS  
100 <222> LOCATION: (1)..(1047)  
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105 1 5 10 15  
107 gag att ccc aaa ccc gag ccc ggt cca ggt gaa gtg ctc ctg gaa gtc 96  
108 Glu Ile Pro Lys Pro Glu Pro Gly Pro Gly Glu Val Leu Leu Glu Val  
109 20 25 30  
111 acc gct gct ggc gtc tgc cac tcg gac gac ttc atc atg agc ctg ccc 144  
112 Thr Ala Ala Gly Val Cys His Ser Asp Asp Phe Ile Met Ser Leu Pro  
113 35 40 45  
117 gaa gag cag tac acc tac ggc ctt ccg ctc acg ctc ggc cac gaa ggc 192  
118 Glu Glu Gln Tyr Thr Tyr Gly Leu Pro Leu Thr Leu Gly His Glu Gly  
119 50 55 60  
121 gca ggc aag gtc gcc gtc ggc gag ggt gtc gaa ggt ctc gac atc 240  
122 Ala Gly Lys Val Ala Val Gly Glu Gly Val Glu Gly Leu Asp Ile  
123 65 70 75 80  
125 gga acc aat gtc gtc gtc tac ggg cct tgg ggt tgc ggc aac tgt tgg 288  
126 Gly Thr Asn Val Val Val Tyr Gly Pro Trp Gly Cys Gly Asn Cys Trp  
127 85 90 95  
129 cac tgc tca caa gga ctc gag aac tat tgc tct cgc gcc caa gaa ctc 336  
130 His Cys Ser Gln Gly Leu Glu Asn Tyr Cys Ser Arg Ala Gln Glu Leu  
131 100 105 110  
133 gga atc aat cct ccc ggt ctc ggt gca ccc ggc gcg ttg gcc gag ttc 384  
134 Gly Ile Asn Pro Pro Gly Leu Gly Ala Pro Gly Ala Leu Ala Glu Phe  
135 115 120 125  
137 atg atc gtc gat tct cct cgc cac ctt gtc ccg atc ggt gac ctc gac 432

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/617,034A

DATE: 08/22/2005  
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Input Set : A:\Q76481.app  
Output Set: N:\CRF4\08222005\J617034A.raw

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141	ccg gtc aag acg gtg ccg ctg acc gac gcc ggt ctg acg ccg tat cac	480		
142	Pro Val Lys Thr Val Pro Leu Thr Asp Ala Gly Leu Thr Pro Tyr His			
143	145	150	155	160
145	gcg atc aag cgt tct ctg ccg aaa ctt cgc gga ggc tcg tac gcg gtt	528		
146	Ala Ile Lys Arg Ser Leu Pro Lys Leu Arg Gly Gly Ser Tyr Ala Val			
147	165	170	175	
149	gtc att ggt acc ggc ggt ctc ggc cac gtc gct att cag ctc ctc cgc	576		
150	Val Ile Gly Thr Gly Gly Leu Gly His Val Ala Ile Gln Leu Leu Arg			
151	180	185	190	
153	cac ctc tcg gcg gca acg gtc atc gct ttg gac gtg agc gcg gac aag	624		
154	His Leu Ser Ala Ala Thr Val Ile Ala Leu Asp Val Ser Ala Asp Lys			
155	195	200	205	
157	ctc gaa ctg gca acc aag gta ggc gct cac gaa gtg gtt ctg tcc gac	672		
158	Leu Glu Leu Ala Thr Lys Val Gly Ala His Glu Val Val Leu Ser Asp			
159	210	215	220	
161	aag gac gcg gcc gag aac gtc cgc aag atc act gga agt caa ggc gcc	720		
162	Lys Asp Ala Ala Glu Asn Val Arg Lys Ile Thr Gly Ser Gln Gly Ala			
163	225	230	235	240
165	gca ttg gtt ctc gac ttc gtc ggc tac cag ccc acc atc gac acc gcg	768		
166	Ala Leu Val Leu Asp Phe Val Gly Tyr Gln Pro Thr Ile Asp Thr Ala			
167	245	250	255	
169	atg gct gtc gcc ggc gtc gga tca gac gtc acg atc gtc ggg atc ggg	816		
170	Met Ala Val Ala Gly Val Gly Ser Asp Val Thr Ile Val Gly Ile Gly			
171	260	265	270	
175	gac ggc cag gcc cac gcc aaa gtc ggg ttc ttc caa agt cct tac gag	864		
176	Asp Gly Gln Ala His Ala Lys Val Gly Phe Phe Gln Ser Pro Tyr Glu			
177	275	280	285	
179	gct tcg gtg aca gtc ccg tat tgg ggt gcc cgc aac gag ttg atc gaa	912		
180	Ala Ser Val Thr Val Pro Tyr Trp Gly Ala Arg Asn Glu Leu Ile Glu			
181	290	295	300	
183	ttg atc gac ctc gcc cac gcc ggc atc ttc gac atc tcg gtg gag acc	960		
184	Leu Ile Asp Leu Ala His Ala Gly Ile Phe Asp Ile Ser Val Glu Thr			
185	305	310	315	320
187	ttc agt ctc gac aac ggt gcc gaa gcg tat cga cga ctg gct gcc gga	1008		
188	Phe Ser Leu Asp Asn Gly Ala Glu Ala Tyr Arg Arg Leu Ala Ala Gly			
189	325	330	335	
191	acg ctc agc ggc cgt gcg gtt gtg gtc cct ggt ctg tag	1047		
192	Thr Leu Ser Gly Arg Ala Val Val Val Pro Gly Leu			
193	340	345		
196	<210> SEQ ID NO: 3			
197	<211> LENGTH: 325			
198	<212> TYPE: PRT			
199	<213> ORGANISM: Penicillium citrinum			
201	<400> SEQUENCE: 3			
202	Met Ser Asn Gly Lys Thr Phe Thr Leu Ser Asn Gly Val Lys Ile Pro			
203	1	5	10	15
205	Gly Val Gly Phe Gly Thr Phe Ala Ser Glu Gly Ser Lys Gly Glu Thr			

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/617,034A

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Input Set : A:\Q76481.app  
Output Set: N:\CRF4\08222005\J617034A.raw

206	20	25	30	
208	Tyr Thr Ala Val Thr Thr Ala Leu Lys Thr Gly Tyr Arg His Leu Asp			
209	35	40	45	
211	Cys Ala Trp Tyr Tyr Leu Asn Glu Gly Glu Val Gly Glu Gly Ile Arg			
212	50	55	60	
214	Asp Phe Leu Lys Glu Asn Pro Ser Val Lys Arg Glu Asp Ile Phe Val			
215	65	70	75	80
217	Cys Thr Lys Val Trp Asn His Leu His Arg Tyr Glu Asp Val Leu Trp			
218	85	90	95	
220	Ser Ile Asp Asp Ser Leu Lys Arg Leu Gly Leu Asp Tyr Val Asp Met			
221	100	105	110	
223	Phe Leu Val His Trp Pro Ile Ala Ala Glu Lys Asn Gly Gln Gly Glu			
224	115	120	125	
226	Pro Lys Ile Gly Pro Asp Gly Lys Tyr Val Ile Leu Lys Asp Leu Thr			
227	130	135	140	
229	Glu Asn Pro Glu Pro Thr Trp Arg Ala Met Glu Lys Ile Tyr Glu Asp			
230	145	150	155	160
233	Arg Lys Ala Arg Ser Ile Gly Val Ser Asn Trp Thr Ile Ala Asp Leu			
234	165	170	175	
236	Glu Lys Met Ser Lys Phe Ala Lys Val Met Pro His Ala Asn Gln Ile			
237	180	185	190	
239	Glu Ile His Pro Phe Leu Pro Asn Glu Glu Leu Val Gln Tyr Cys Phe			
240	195	200	205	
242	Ser Lys Asn Ile Met Pro Val Ala Tyr Ser Pro Leu Gly Ser Gln Asn			
243	210	215	220	
245	Gln Val Pro Thr Thr Gly Glu Arg Val Ser Glu Asn Lys Thr Leu Asn			
246	225	230	235	240
248	Glu Ile Ala Glu Lys Gly Gly Asn Thr Leu Ala Gln Val Leu Ile Ala			
249	245	250	255	
251	Trp Gly Leu Arg Arg Gly Tyr Val Val Leu Pro Lys Ser Ser Asn Pro			
252	260	265	270	
254	Lys Arg Ile Glu Ser Asn Phe Lys Ser Ile Glu Leu Ser Asp Ala Asp			
255	275	280	285	
257	Phe Glu Ala Ile Asn Ala Val Ala Lys Gly Arg His Phe Arg Phe Val			
258	290	295	300	
260	Asn Met Lys Asp Thr Phe Gly Tyr Asp Val Trp Pro Glu Glu Thr Ala			
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268	<211> LENGTH: 978			
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274	<222> LOCATION: (1)..(978)			
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277	atg tct aac gga aag act ttc aca ttg agc aac ggc gtc aag att cct	48		
278	Met Ser Asn Gly Lys Thr Phe Thr Leu Ser Asn Gly Val Lys Ile Pro			

**RAW SEQUENCE LISTING**  
**PATENT APPLICATION: US/10/617,034A**

**DATE: 08/22/2005**  
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**Input Set : A:\Q76481.app**  
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281	ggc gtc ggc ttt ggt acc ttc gct agt gaa ggt tcc aag ggc gag acc				96
282	Gly Val Gly Phe Gly Thr Phe Ala Ser Glu Gly Ser Lys Gly Glu Thr				
283	20	25	30		
285	tat act gct gtc acc act gcc ctg aag acc ggt tac cgt cac ttg gac				144
286	Tyr Thr Ala Val Thr Ala Leu Lys Thr Gly Tyr Arg His Leu Asp				
287	35	40	45		
291	tgt gcc tgg tac tac ctg aac gag ggt gag gtt ggt gag ggt atc cgt				192
292	Cys Ala Trp Tyr Tyr Leu Asn Glu Gly Glu Val Gly Glu Gly Ile Arg				
293	50	55	60		
295	gac ttc ctg aag gag aac ccc tcg gtg aag cgt gag gac atc ttc gtc				240
296	Asp Phe Leu Lys Glu Asn Pro Ser Val Lys Arg Glu Asp Ile Phe Val				
297	65	70	75	80	
299	tgc acc aag gtg tgg aac cac ctc cac cgt tat gag gac gtc ctc tgg				288
300	Cys Thr Lys Val Trp Asn His Leu His Arg Tyr Glu Asp Val Leu Trp				
301	85	90	95		
303	tcc att gac gac tcc ctg aag cgt ctt gga ctt gac tac gtt gat atg				336
304	Ser Ile Asp Asp Ser Leu Lys Arg Leu Gly Leu Asp Tyr Val Asp Met				
305	100	105	110		
307	ttc ctc gtt cac tgg ccc att gct gcc gag aag aat ggc cag ggt gag				384
308	Phe Leu Val His Trp Pro Ile Ala Ala Glu Lys Asn Gly Gln Gly Glu				
309	115	120	125		
311	ccc aag att ggc cct gac ggc aaa tac gtc att ctc aag gac ctg acc				432
312	Pro Lys Ile Gly Pro Asp Gly Lys Tyr Val Ile Leu Lys Asp Leu Thr				
313	130	135	140		
315	gag aac ccc gag ccc aca tgg cgc gct atg gag aag att tat gag gat				480
316	Glu Asn Pro Glu Pro Thr Trp Arg Ala Met Glu Lys Ile Tyr Glu Asp				
317	145	150	155	160	
319	cgc aag gcc agg tcc att ggt gtc tcc aac tgg acc att gcc gac ctt				528
320	Arg Lys Ala Arg Ser Ile Gly Val Ser Asn Trp Thr Ile Ala Asp Leu				
321	165	170	175		
323	gag aag atg tcc aag ttc gcc aag gtc atg cct cac gcc aac cag atc				576
324	Glu Lys Met Ser Lys Phe Ala Lys Val Met Pro His Ala Asn Gln Ile				
325	180	185	190		
327	gag att cac ccc ttc ctg ccc aac gag gag ctg gtg cag tac tgc ttc				624
328	Glu Ile His Pro Phe Leu Pro Asn Glu Glu Leu Val Gln Tyr Cys Phe				
329	195	200	205		
331	tcc aag aac att atg ccc gtg gcc tac tct cct ctg ggc tcg cag aac				672
332	Ser Lys Asn Ile Met Pro Val Ala Tyr Ser Pro Leu Gly Ser Gln Asn				
333	210	215	220		
335	cag gtt ccc acc acc ggt gag cgg gtc agc gag aac aag act ctg aac				720
336	Gln Val Pro Thr Thr Gly Glu Arg Val Ser Glu Asn Lys Thr Leu Asn				
337	225	230	235	240	
339	gag atc gcc gag aag ggc ggc aac acc ctt gct cag gtt ctt att gcc				768
340	Glu Ile Ala Glu Lys Gly Gly Asn Thr Leu Ala Gln Val Leu Ile Ala				
341	245	250	255		
343	tgg ggt ctg cgc cgt ggc tac gtc gtt ctc ccc aag agc tcc aac ccc				816
344	Trp Gly Leu Arg Arg Gly Tyr Val Val Leu Pro Lys Ser Ser Asn Pro				
345	260	265	270		

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/617,034A

DATE: 08/22/2005

TIME: 11:28:34

Input Set : A:\Q76481.app

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**STATISTICS SUMMARY** DATE: 08/22/2005  
PATENT APPLICATION: US/10/617,034A TIME: 11:28:34

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al Amino Acids: 934  
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ber of Corrections: 0

**SAGE SUMMARY**